REMARKS

1. Claims 1-25 are pending in the application. The Examiner has rejected Claims 1-25 under 35 U.S.C. § 103(a).

2. The Examiner has rejected Claims 12-21 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 3,476,161 to L.E. Dunlap ("Dunlap") in view of U.S. Pat. No. 4,599,018 to Quentin Woods ("Woods"). The invention claimed in independent Claim 12 relates to a sheet metal router apparatus. The apparatus includes a guide, fastened to the sheet metal by fasteners drilled through the sheet metal, and also includes a platform mounted on the guide, and a router mounted on the platform. An operator adjusts a vertical adjustment of the router for a desired depth-of-cut and moves the platform continuously along the guide to make a desired cut.

Dunlap is directed to a tool guide support and saw guard for a power saw in Figs. 1-2 and to a router in Figs. 8-9. The Examiner states that Dunlap teaches a "router apparatus" with a "guide," and a "platform." The Examiner further states that the disclosed "router" is one "having a vertical adjustment" and an end mill cutter therein provided on the "platform." The Examiner avers that while the "guide" in Dunlap is not fastened to the workpiece by fasteners drilled through the skin, one possessing ordinary skill in the related art would be expected to readily adapt known fastening means as taught by Woods wherein fasteners attach a "guide" to a workpiece surface to modify the attachment means of Dunlap, to achieve the benefits of the more rigid attachment means of Woods. Woods is directed to an automatic traversing drilling unit.

Applicants traverse this rejection. The rationale given by the Examiner is insufficient to motivate one to combine the references, Woods and Dunlap. The rationale given for combining Woods and Dunlap is that the combination would "attach a guide to a workpiece surface to modify the attachment means of Dunlap . . . and achieve the more rigid attachment of the guide inherent in the use of fasteners as taught by Woods." Office Action, p. 2 lines 18-21. One would not be motivated to make the combination for at least two reasons: the combination proposed by the Examiner would be LESS rigid, not more rigid, and the proposed combination would require more work and set-up than the references cited by the Examiner.

It is not at all obvious that the use of fasteners as taught by Woods would be inherently more rigid than the methods used by Dunlap. The only methods for holding a workpiece that are described and discussed in Dunlap include the use of adhesives to clamp a support plate to a workpiece (col. 4, lines 44-49, applied to a saw) and a vacuum plate (col. 5, line 68 to col. 6, line 5, applied to a router). The use of a vacuum plate with a router is described as an "immovable" hold. Col. 6, line 3. In Dunlap, the router moves on a guide track formed by a cylindrical rod and received in a groove formed in the support plate so that the router may move smoothly along the guide track while making its cut on the workpiece. Col. 6, lines 6-12.

By contrast, the carriage and lock bolts of Woods are part of a much more complicated mechanism. The advantage cited in Woods is not rigidity of the structure, but the automatic drilling of holes on the surface of the workpiece, where the holes are sought for other purposes. See Woods, col. 1, lines 16-17. In fact, it is doubtful that the structure of Woods is more rigid: the carriage of Woods is held by only two carriage bolts and a complicated mechanism on the carriage itself, while the vacuum plate in Dunlap holds the support plate "immovable." Dunlap, col. 5, line 73, to col. 6, line 5. Furthermore, the method depicted in Figs. 8 and 9 of Dunlap has only one degree of freedom for the router to move, namely back and forth as permitted by the guide track and cylindrical rod. In contrast, the carriage and lock bolts of Woods allow two degrees of freedom, that is, the drill units are mounted for movement in an X and a Y direction. Col. 1, lines 25-26. Thus, the mounting method of Woods has, if anything, inherently LESS stability and rigidity than that of Dunlap. There is no incentive to combine these structures to achieve less stability

Finally, the combination proposed by the Examiner requires much more set up and work than the vacuum hold-down of Dunlap, and with no motivation for the extra work. As pointed out in the paragraph above, holes must be drilled in the workpiece in order to mount the guide. Presumably, care must be taken in placing these holes and drilling them. In contrast, the vacuum hold down taught by Dunlap needs only to be oriented and placed. No drilling of holes or removal of debris is required, and thus there is less setup with a vacuum hold down as taught by Dunlap. Only with impermissible hindsight is one motivated to combine Dunlap with Woods to arrive at the claimed invention. In addition, the carriage of Woods must also be moved every few feet and re-oriented.

Accordingly, the prior art does not suggest the desirability of combining the references, because one would be moving from an "immovable" mounting to a mounting that is inherently less stable. In addition, more work is required, and the end product, the workpiece, will be left with undesired holes. A person with ordinary skill in the art would not be motivated to combine the references because the combination is less stable, requires more work, and leaves undesirable features or holes in the product or workpiece produced. Applicants believe, therefore, that one would not be motivated to combine the references, because the prior art does not even suggest the desirability of combining the references. M.P.E.P. 2143.01. Only with impermissible hindsight can one combine the less stable lock bolts of Woods with the router of Dunlap to arrive at the claimed invention. In re Deuel, 34 U.S.P.Q.2d 1210 (Fed. Cir. 1995) (reversing rejections for obviousness because of the use of impermissible hindsight). Therefore, the rejection of Claims 12-19 under 35 U.S.C. § 103(a) is improper, and the Examiner is requested to withdraw the rejection and advance the claims to allowance.

3. The Examiner has also rejected Claims 1-11 and 22-25 under 35 U.S.C. § 103(a) as being unpatentable over Dunlap in view of Woods and further in view of U.S. Pat. No. 4,850,796 to Ase Stornetta ("Stornetta"). Stornetta teaches a vacuum attachment. The Examiner states that the rationale for the rejection includes the arguments made above for Dunlap in view of Woods, and that it would have been obvious to one of ordinary skill in the art to use the device of Stornetta to collect machining debris and reduce hazards to the operator. Applicants also traverse these rejections because the references do not teach all the limitations of the claimed inventions, and a person having ordinary skill in the art would not be motivated to combine the references.

The invention claimed in Claims 1, 22 and 24, and in their dependent claims, is for an aircraft skin lap router apparatus or for a sheet metal router apparatus. Claim 1 claims a guide fastened to the skin by fasteners drilled through the skin, a platform mounted on the guide, a router mounted on the platform, and a vacuum fitting mounted on the platform. Claims 22 and 24 specifically claim a nylon guide, a platform having at least one bearing, a router with two hand grips and capable of very fine vertical adjustments, at least within one-thousandth of an inch, as well as a vacuum fitting.

The rationale given by the Examiner is insufficient to motivate one to combine the references, especially the combination of Woods and Dunlap. The rationale given for combining Woods and Dunlap, as discussed above, is that the combination would "attach a guide to a workpiece surface to modify the attachment means of Dunlap . . . and achieve the more rigid attachment of the guide inherent in the use of fasteners as taught by Woods." Office Action, p. 2 lines 18-21. As discussed above, the mounting method of Dunlap, a vacuum hold-down, is much more stable and easier to use than the carriage of Woods. In addition, the combination would require more work or set-up and would leave undesirable holes or features in the workpiece.

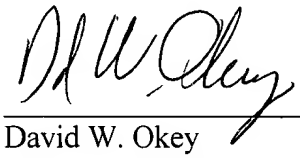
Even if the references are improperly combined, the references do not teach all the limitations of the claimed inventions. The Examiner has not cited references for many of the limitations of the inventions claimed in Claims 1, 22 and 24, and in their dependent claims. For instance, the Examiner has cited no reference for an "aircraft skin lap router apparatus," or for a nylon guide, or for a bearing mounted on the platform and interfacing with the nylon guide, so that the operator can smoothly and easily move the router along the track. The Examiner has cited no reference for many of the details of the claimed inventions, such as a router having a vertical adjustment within one-thousandth of an inch, or for a router whose source of power is electric or pneumatic, at least in the context of an aircraft skin lap router apparatus. In order to establish a prima facie case of obviousness, the prior art references must teach or suggest all the claim limitations. M.P.E.P. 2142. Since the Examiner has not cited references for at least several limitations of the claimed inventions, a prima facie case of obviousness has not been established.

As discussed above, the prior art does not suggest the desirability of combining the references, because one would be moving from an "immovable" mounting to a less stable mounting. In addition, the combination requires more set-up and will leave the workpiece with undesirable holes. Applicants believe, therefore, that one would not be motivated to combine the references, because the prior art does not suggest the desirability of combining the references. M.P.E.P. 2143.01. Only with impermissible hindsight can one combine the lock bolts of Woods with the router of Dunlap to arrive at the claimed invention. In re Deuel, 34 U.S.P.Q.2d 1210 (Fed. Cir. 1995) (reversing rejections for obviousness because of the use of impermissible hindsight).

Adding the vacuum fitting of Stornetta to Dunlap and Woods does not teach the inventions claimed in Claims 1, 22 and 24, and in their dependent claims. The Examiner has not cited references for several of the limitations of the claims. Applicants have refuted the desirability of combining the references. Accordingly, Applicants submit the rejections of Claims 1-11 and 22-25 are overcome. The Examiner is respectfully requested to withdraw the rejections of Claims 1-11 and 22-25 under 35 U.S.C. § 103(a).

4. Applicants request that the Examiner withdraw the rejections of Claims 1-25 under 35 U.S.C. § 103(a). Applicants believe that the Claims are in form for allowance, and respectfully request the Examiner to advance the claims to allowance. The Examiner is respectfully requested to call the undersigned if such will help expedite the allowance of the claims.

Respectfully submitted,



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